



INQUIRY UNPACKED: An Introduction to Inquiry-Based Learning

By Barbara A. Jansen

"Inquire, think critically, and gain knowledge."
"Plan strategies to guide inquiry."

As our national educational organizations' standards evolve from students mastering discrete skills to demonstrating broad learning behaviors, often referred to as 21st century learning skills, pedagogy is slowly shifting from teacher- and textbook-centered dissemination of facts and information to student-centered construction of learning and knowledge. In this environment, students use a wide range of resources to collaborate with others to solve authentic problems by thinking critically, actively create content, and communicate with a wide audience. The Partnership for 21st Century Skills succinctly categorizes these participatory skills into the four Cs: "critical thinking and problem solving, collaboration, communication, and creativity and innovation" (P21 mission statement). Both the American Association of School Librarians (AASL) and the International Society for Technology in Education's (ISTE)

"The inquiry process is not linear but occurs as a cyclical series of actions or events."

National Educational Technology Standards for Students 2007 call for students to use an inquiry approach when engaged in the research process. The AASL standards refer to inquiry seven times, including having students "inquire, think critically, gain knowledge," and to "follow an inquiry-based process in seeking knowledge in curricular subjects, . . ." and "continue an inquiry-based research process by applying critical-thinking skills . . ." in addition to "conclud[ing] an inquiry-based research process . . ." (AASL). ISTE standards call for students to "plan strategies to guide inquiry" ("NETS for Students").

But what does it look like for a student to be engaged in inquiry? What is inquiry-based research, commonly referred to as inquiry-based

learning or "guided inquiry" (Kuhlthau, Maniotes, and Caspari)? A recent post on the AASL email forum underscores the confusion that school librarians and educators in general have about inquiry. A librarian questioned the use of the term "inquiry-based project" in the standards in lieu of "research project" and considered whether she should teach her students the meaning of inquiry. A search for "inquiry-based research" on Google results in 102,000 links. "Inquiry-based learning" returns over 151,000 links. A search for "inquiry-based learning" offers 101 titles on Amazon.com, over 8,400 results on Google Books, over 9,760 results on Google Scholar, and over 52,000,000 results on Bing.

NOT TO BE MISSED READING AND VIEWING FOR SCHOOL LIBRARIANS

Kuhlthau, Carol C., Leslie K. Maniotes, and Ann K. Caspari. *Guided Inquiry: Learning in the 21st Century*. Libraries Unlimited, 2007.

Rheingold, Howard. "Librarian 2.0: Buffy J. Hamilton." *Digital LM Central*. MacArthur Foundation, 3 May 2010. Web. 10 Oct. 2010. <http://dmlcentral.net/blog/howard-rheingold/librarian-20-buffy-j-hamilton>.

Stripling, Barbara. "Teaching Students to Think in the Digital Environment: Digital Literacy and Digital Inquiry." *School Library Monthly* 26.8 (2010): 16-18. EBSCOhost Professional Development Collection. Web. 16 Sept. 2010.

INQUIRY DEFINED

What is inquiry? What does it look like? What are its components?

The *Oxford English Dictionary* defines inquiry as "the action of seeking, . . . for truth, knowledge, or information concerning something; search, research, investigation, examination; a course of inquiry, an investigation; and the action of asking or questioning."

Educational organizations explain inquiry as it relates to learning. In *Standards for the English Language Arts*, the National Council of Teachers of English (NCTE) describes inquiry as "the learner's desire to look deeply into a question or idea that interests him or her" (27). AASL's explanation in *Standards for the 21st-Century Learner* offers inquiry as a "stance toward learning in which the learners themselves are engaged in asking questions and finding answers, not simply accumulating facts (presented by someone else) that have no relation to previous learning or new understanding" (17). Inquiry-based research—or learning—consists of a "process of learning that is driven by questioning, investigating, making sense of information, and developing new understandings, it is a process of active learning, [and] it is cyclical, not linear" ("Chapter 3: Inquiry in Action") and is determined "by one's own curiosity, wonder, interest or passion to understand an observation or solve a problem" ("A Description of Inquiry").

Traditionally, the teacher tells students what to "look up" during the research phase of a given project, which may typically occur after the teaching of the content as enrichment or a follow-up activity. Inquiry-

"Inquiry-based research allows the student to ask questions in which he or she is interested and use all available resources to investigate the problem."

based research allows the student to ask questions in which he or she is interested and use all available resources to investigate the problem. Key components of inquiry-based research include "framing school study around questions developed and shaped by kids," "handing the brainwork of learning back to the kids," and focusing on the "development of kids' thinking first, foremost, and always" (Harvey and Daniels 56-57). And, inquiry occurs not at the end but at the beginning of the study, allowing students to construct the content knowledge necessary to understand concepts and make connections.

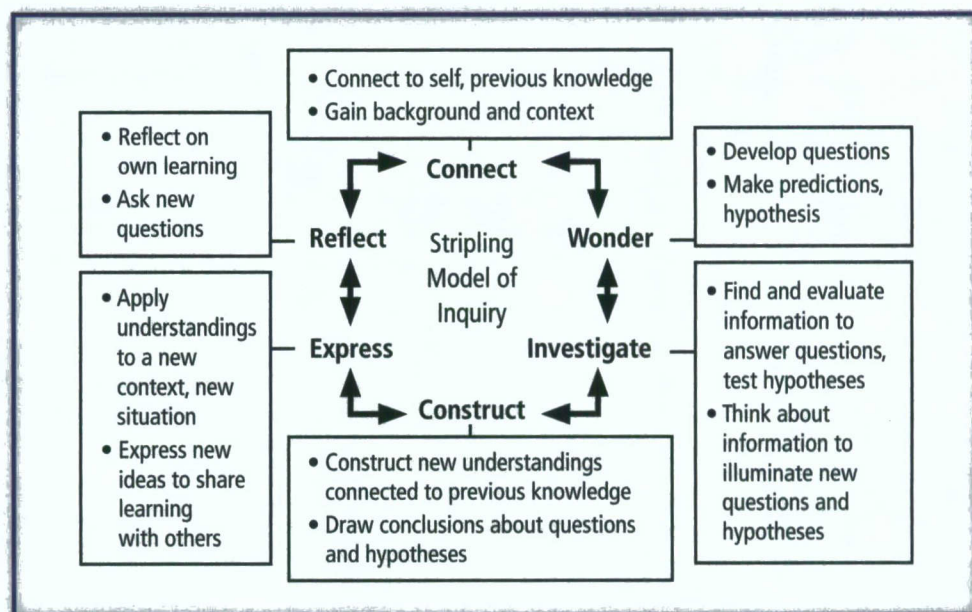
Inquiry does not necessarily follow a logical or neat process. Models of inquiry-based learning show a variety of approaches (see additional resources below) that librarians and teachers can use to guide students. All emphasize that the process is not linear but occurs as a cyclical series of actions or events. The six-phase Stripling Inquiry Model makes good sense for school librarians who seek a structure for collaborating with teachers (Stripling) to bring inquiry into the learning process. The model's phases—connect, wonder, investigate, construct, express, and reflect—allow for nonlinear thinking as illustrated below:

Ideally, the process begins "when the learner identifies a problem or notices something that

intrigues, surprises, or stimulates a question—something that is new, or something that may not make sense in relationship to the learner's previous experience or current understanding" ("A Description of Inquiry").

INQUIRY PRACTICED

In reality, other than the occasional self-selected research paper or science fair topic, state- or school-mandated curriculum standards leave little time for students to explore their own interests. By turning the curriculum into engaging problems for students to solve, students can participate in inquiry while practicing many curriculum-mandated skills (i.e., reading, writing, listening, research) as they investigate subject-area content (social studies, science, health, math, etc.). Instead of teachers dictating the information students need to locate, allow them to determine what they know, want to know, and need to know to solve the information problem. Encourage students to use a variety of online and offline resources, and allow them to show their results by creating products that go beyond the traditional report and PowerPoint presentation. Targeting specific audiences for students' efforts raises their level of concern and provides a focus for their



[Used with permission.] For more about the Stripling Model, see the additional resources on the next page.

writing and knowledge sharing. For example, turn the traditional report into an article synthesizing important concepts for the general consumption of *Time* magazine readers or an editorial for the opinion page of a newspaper. Multimedia texts combine the important skill of writing along with those involved in visual and audio production. Students can display these texts on blogs or wikis for public consumption.

Inquiry is not easily nurtured through standalone library instruction that occurs once a week. Successful inquiry-based learning involves students engaging in topics originating in their subject-area courses for extended periods of time on consecutive days, preferably in collaboration with the school librarian. Kuhlthau, Maniotes, and Caspari suggest that “inquiry instructional teams” help students develop competencies in research and subject knowledge while helping to support essential 21st century skills, and require “careful planning, close supervision, ongoing assessment, and targeted intervention . . .” (2-3).

Buffy Hamilton, librarian at Creekview High School in Canton, Georgia, offers useful insights to the inquiry process through a collaboration with a tenth grade teacher of literature composition. According to Hamilton,

collaboration with the classroom teacher benefits students in several ways: scaffolding information literacy skills, introducing new online tools to students or showing them how to use familiar ones in effective ways, teaching evaluation of multimedia texts, and establishing a climate that promotes participation, inquiry, and risk taking in a safe environment. Students see two or more professionals working together and learning with them (qtd. in Rheingold).

Through self-selected topics within the greater problem of veteran’s issues, students in Hamilton’s school engaged in the inquiry process with the support of these professionals. Students “effectively learn to become their own information filters, which is the ultimate act of information fluency. [Using a variety of online resources and presentation tools such as NetVibes] allows us to privilege multiple forms of literacy and for our students to engage in transliteracy—the ability to read and write and share information across a variety of platforms” (Rheingold).

By collaborating with teachers to connect students to subject knowledge, developing their information fluency, and supporting the vital skills of collaboration, creation, and communication through inquiry, school librarians will solidify their place as an essential teaching professional at their schools. ■■

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ADDITIONAL RESOURCES FOR THE STRIPLING INQUIRY MODEL

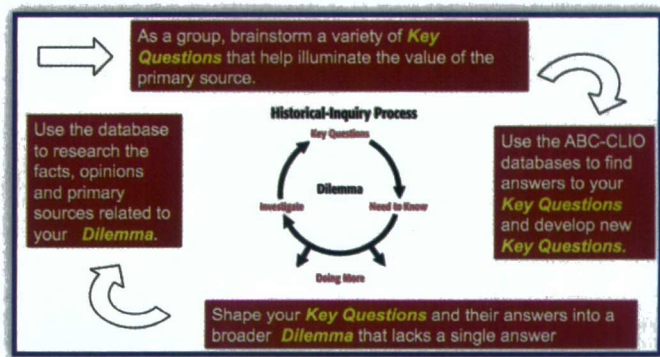
Supporting inquiry with primary sources (multimedia from the Library of Congress; with Barbara Stripling, primary sources, and 5th graders): <http://www.loc.gov/teachers/professionaldevelopment/selfdirected/inquiry/index.html>

Supporting inquiry learning from the Library of Congress’s *Teaching with Primary Sources Quarterly* publication: <http://www.loc.gov/teachers/tps/quarterly/0907/pdf/TPSQuarterlySummer09.pdf>

“Student Inquiry and Web 2.0” by Pam Berger (includes using Stripling Inquiry Model with Web 2.0 tools): <http://www.schoollibrarymonthly.com/articles/Berger2010-v26n5p14.html>

OTHER MODELS

Historical Inquiry (ABC-CLIO):



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Tasks of Inquiry (Anna J. Warner and Brian E. Myers, Department of Agricultural Education and Communication, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida):

<http://edis.ifas.ufl.edu/wc075>

8Ws of Information Inquiry (Annette Lamb):

<http://virtualinquiry.com/inquiry/ws.htm>

Inquiry-based Learning (Paula Sincero):

<http://www.inquirylearn.com/Inquirydef.htm>

Inquiry Process (The Inquiry Page, University of Illinois, Urbana-Champaign):

<http://inquiry.illinois.edu/inquiry/process.php3>

ASSESSMENT

“Enhancing Inquiry through Formative Assessment” by Wynne Harlen (Exploratorium Institute for Inquiry):

http://www.exploratorium.edu/IFI/docs/harlen_monograph.pdf

“How can we assess student learning in an inquiry classroom?” (The Inquiry Page, University of Illinois, Urbana-Champaign):

<http://inquiry.illinois.edu/php/assessment2.php>

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